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Apprenticeship and Training Policy for Dental Laboratory Technicians.

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The dental technician performs completely one or more specialized areas of the dental laboratory procedures required in the creation of a dental appliance. Policies of the 8000 hour apprenticeship program are explained in terms of qualifications, apprenticeship terms and agreement, ratio of apprentices to technicians, probationary period, credit for previous experience, hours of work, compensation, examinations, work experience, related instruction, records and examinations, selection procedures, accident prevention, adjusting differences, and certificate of completion. Learning experiences are listed and related to time allowances for the denture, casting, ceramics, and crown and bridge specialities. (JK)

EDO 24766

APPRENTICESHIP AND TRAINING POLICY FOR DENTAL LABORATORY TECHNICIANS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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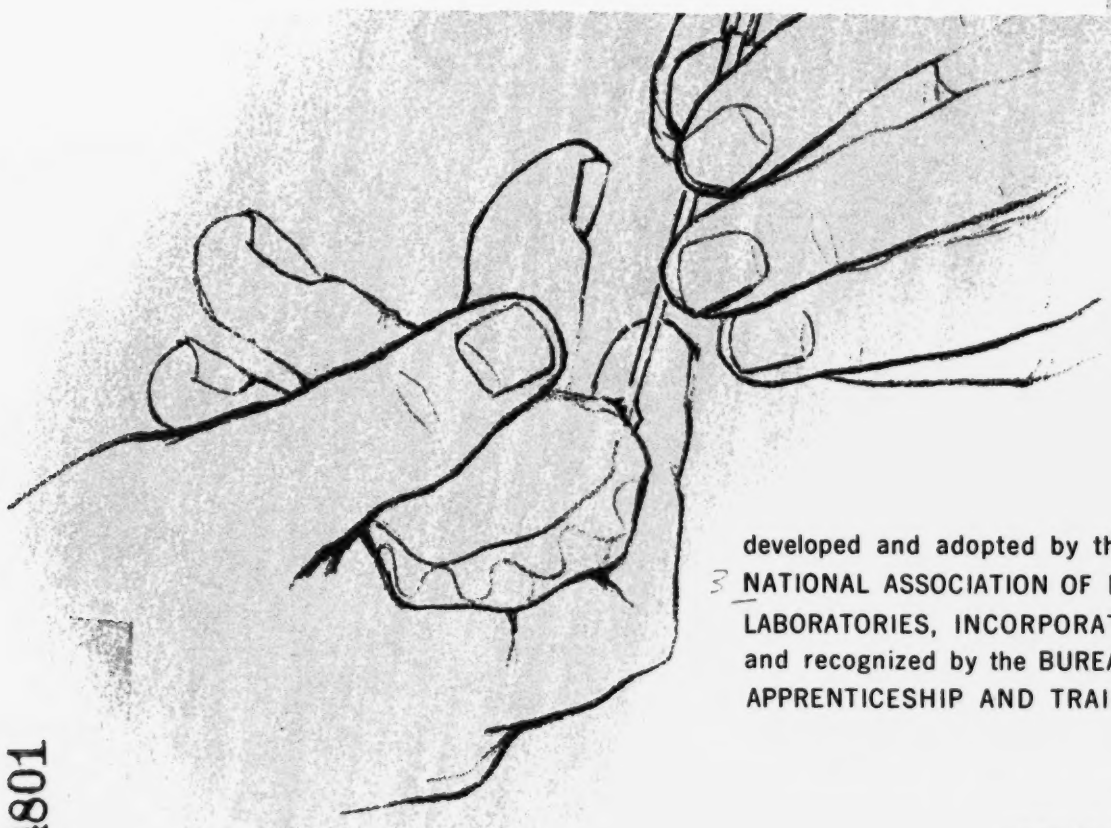

developed and adopted by the
NATIONAL ASSOCIATION OF DENTAL LABORATORIES, INCORPORATED
and recognized by the BUREAU OF APPRENTICESHIP AND TRAINING

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1966 Edition

U. S. DEPARTMENT OF LABOR • W. Willard Wirtz, Secretary
MANPOWER ADMINISTRATION / BUREAU OF APPRENTICESHIP AND TRAINING

Certificate of Registration

NATIONAL APPRENTICESHIP AND TRAINING POLICY
OF THE NATIONAL ASSOCIATION OF DENTAL LABORATORIES

Washington, D. C.

for All Recognized Trade Branches of Dental Laboratory Technician

Issued in recognition of the above apprenticeship system, registered as part of the National Apprenticeship Program, in accordance with the standards recommended by the

FEDERAL COMMITTEE ON APPRENTICESHIP

Date January 28, 1965

Registry No. 84039

W. Willard Wirtz
Secretary of Labor

Hugh C. Murphy
Administrator, Bureau of Apprenticeship and Training

U.S. DEPARTMENT OF LABOR
BUREAU OF APPRENTICESHIP AND TRAINING
WASHINGTON, D.C. 20210

January 28, 1965

National Apprenticeship and
Training Committee
National Association of Dental
Laboratories
Washington, D. C.

Gentlemen:

Your National Apprenticeship and Training Policy Statement, covering the trade of dental technician, has been registered as part of the Department of Labor's National Apprenticeship Program. It includes the basic standards recommended by the Bureau of Apprenticeship and Training.

I congratulate you and the association which you represent on your efforts to provide a systematic and uniform method for training dental technicians throughout the industry. Your continued interest and initiative in providing guidance to your association's membership in line with your recommended national policy should bring you lasting credit and satisfaction.

The field staff of the Bureau of Apprenticeship and Training is available to assist your local members in formulating apprenticeship systems patterned after your national policy.

Sincerely yours,

Hugh C. Murphy

Hugh C. Murphy
Administrator

National Association of Dental Laboratories, Inc.

1330 Massachusetts Avenue, Washington, D.C. 20005

April 9, 1965

A note to members of the dental laboratory industry

A long time ago the National Association of Dental Laboratories recognized the problem of attracting skilled and serious young people into our industry.

Yet our field is vitally important to the health of the community. Our work is truly creative, since no two cases are alike and the finished product goes into an orifice in the human body, there to become an important part of the masticatory apparatus. And it takes time, and work to gain those skills!

Now we have a program of apprenticeship training -- to help you and to help the dental health of the community.

This plan is not the product of expediency -- nor is it any miracle remedy for the acute recruitment needs of our industry. It will take time to train and it will take time to grow.

We hope many of our friends and collegues will take advantage of it and will join with us in building a reserve of manpower for our future.

Yours for the future,

NATIONAL ASSOCIATION OF DENTAL LABORATORIES

John Kniska C.D.T.

John Kniska, C.D.T.
President

JK:ms

NATIONAL APPRENTICESHIP AND TRAINING POLICY OF THE NATIONAL ASSOCIATION OF DENTAL LABORATORIES [1]

DEFINITIONS

"Apprentice Dental Technician" is an individual who is under an apprenticeship agreement to learn the trade of dental technician as outlined in these standards, and who is registered with the appropriate registration agency.

"Dental Technician" is an individual trained to perform completely one or more specialized areas of the dental laboratory procedures required in the creation of a dental appliance. Specifically, an individual who has completed a program of training and study in accordance with these standards, and who has been awarded a certificate of completion.

"Certified Dental Technician" is a dental laboratory technician who is qualified by training, education, and examination in accordance with the standards established by the National Board for Certification in Dental Laboratory Technology [2] for such certificate, and who continuously maintains those qualifications in accordance with the requirements for recertification.

"Apprenticeship Agreement" shall mean a written agreement between an employer and the apprentice.

"Association" shall mean the National Association of Dental Laboratories, Inc. For the purpose of this program, the association's address will be

1330 Massachusetts Avenue
Washington, D.C. 20005

"Employer" shall mean any member of the National Association of Dental Laboratories who has the facilities and equipment to train apprentices in accordance with the terms and conditions of this national policy.

"Supervisor of Apprenticeship and Training" shall mean the individual selected by the employer to organize and administer the local apprenticeship program in accordance with this national policy.

"Registration Agency" shall mean the recognized State apprenticeship council, or in States where there are no such councils, it shall mean the Bureau of Apprenticeship and Training, U.S. Department of Labor.

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[1] Local application of these national apprenticeship and training policies in States having State apprenticeship councils may require adaptations to meet the standards of apprenticeship in such States. The staff of the Bureau of Apprenticeship and Training and of State apprenticeship agencies is available to advise on such standards.

[2] National Board for Certification in Dental Laboratory Technology is an agency of the National Association of Dental Laboratories.

Part I

APPRENTICES

1. **Qualifications for Apprenticeship.**—An applicant for apprenticeship shall be not less than 16 years of age, and possess the following physical and educational requirements:

A. Physical:
   1. Normal vision both eyes. (Glasses permitted.)
   2. Normal hearing both ears.
   3. Finger dexterity.

B. Educational:
   1. High school graduate or possess equivalency certificate.
   2. Mechanical aptitude:
      Tests of the type prepared and administered by the U.S. Employment Service for dental technician applicants.

The use of application forms, appropriate interviewing techniques, and aptitude tests are tools of the selection process, and properly used, provide some degree of assurance that the applicant possesses the requisites for a successful apprenticeship. The benefits of adequate selection techniques include better qualified apprentices, reductions in turnover, saving in training time and expense, and more competent highly skilled dental technicians.

Selection of apprentices under local programs shall be made from qualified applicants on the basis of qualifications alone and without regard to race, creed, color, national origin, sex, or physical handicap in accordance with objective standards which permit review, after full and fair opportunity for application; and this program shall be operated on a completely nondiscriminatory basis.

2. **Term of Apprenticeship.**—Dental technician apprentices shall serve a minimum of 8,000 hours in the trade, such term to include the probationary period.

The apprentice's progress in each phase of apprenticeship may be determined on a credit hour basis. Therefore, an apprentice, who by usual aptitude and industry or because of past educational and/or practical experience, achieves the desired level of attainment in one phase of apprenticeship in less than the time designated, may be advanced to the next phase. The determination of such achievement in less than the usual scheduled hours shall be made by the employer, with the approval of the National Apprenticeship and Training Committee.

3. **Apprenticeship Agreement.**[3]—The dental technician apprentice shall be covered by a written apprenticeship agreement, signed by the

[3] Some State apprenticeship agencies require the use of their own apprenticeship agreement forms. In such instances, the agreement forms may be obtained from the staff of the State apprenticeship agency or the Bureau of Apprenticeship and Training. If such is not the case, the sample forms included herein may be used.

apprentice, his employer, and registered with the appropriate registration agency.[4] Such agreement shall contain a statement making the terms and conditions of the local standards a part of the agreement.

The registration agency will be furnished a list of apprentice actions periodically when the registration agency does not otherwise require a copy of the apprenticeship agreement.[5]

4. **Ratio of Apprentices to Dental Technicians.**—The provision in local standards covering the ratio of apprentices to journeymen shall be worked out in accordance with local practices, or as stated in local collective bargaining agreements.

No more apprentice dental technicians shall be employed than can be given proper supervision on the job and afforded employment opportunity on completion of apprenticeship. The ratio of dental technicians to apprentices shall be stated in the local program.

5. **Probationary Period.**—Apprentice dental technicians employed under local programs shall be subject to a probationary period, not to exceed 3 months or 500 hours of reasonably continuous employment. Upon satisfactory completion of the probationary period, the apprentice will enter into the apprenticeship agreement with the employer and will be given credit towards his apprenticeship for training and time spent in probationary status. Apprenticeship agreements may be canceled at any time for due cause. The registration agency shall be advised of all cancellations and terminations of apprenticeship agreements.

6. **Credit for Previous Experience.**—Upon a finding that the applicant has had previous experience, either practical or educational, to qualify him for advanced standing in the apprenticeship program, the applicant may be given such advanced standing, subject to review by the employer on or before the end of the probationary period. Where such advanced standing is granted, the apprentice will be paid at the rate for the period to which he is advanced.

7. **Hours of Work.**—The workday and workweek for apprentices and conditions associated therewith shall be the same as those of other classifications of employees doing comparable work.

8. **Compensation.**—The apprentice shall be paid for each hour spent in the dental laboratory and in related instruction during normal working hours at a progressively increasing schedule of wages to be established on a percentage of the prevailing local dental technician's wage rate. It is recommended that increases be granted at intervals of 1,000 hours or less.

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[4] Where required by law and/or the local custom, the apprenticeship agreement will also be signed by the apprentice's parent or guardian.

[5] Registration agencies requiring a signed copy of the apprenticeship agreement for registration purposes are: Arizona, California, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, New Hampshire, New Mexico, Oregon, Rhode Island, Washington, Wisconsin, and the District of Columbia.

Payments for tuition fees, books, and supplies required for approved courses, and gratuities upon the successful completion of the apprenticeship may be granted in accordance with local custom.

9. **Examinations.**—The apprentice shall be examined prior to advancement to each phase of his apprenticeship and at such other times as it is deemed necessary by the employer to determine the apprentice's progress. Consideration shall be given to related instruction and on-the-job work records and such other factors as are indicative of the apprentice's development in the skills of the trade.

10. **Work Experience.**—The apprentice shall be taught the use, care, and effective handling of all tools and equipment commonly used in the trade. The apprentice shall be given work experience and training in the trade to assure him the skill and proficiency which characterize a qualified dental technician, as herein defined. Such on-the-job training shall be carried on under the control of the employer or his designated representative, under the direction and guidance of a qualified dental technician, certified dental technician or graduate dentist.

11. **Related Instruction.**—The apprentice dental technician shall be required to attend classes in subjects related to the trade for a minimum of 144 hours per year. These classes may be given during or outside the regular working hours depending upon local practices and available facilities. All time spent in such classes after working hours shall not be considered as hours of work. If required to attend classes during the regular working hours, the apprentice shall be compensated therefor at his regular hourly rate.

To provide appropriate instruction, in-plant courses may be given, utilizing company or outside personnel as teachers. Local high schools or colleges may be helpful in developing instruction material and providing for in-plant education. Local high schools, vocational schools, and colleges usually cooperate in offering related studies that can be taken after working hours.

12. **Apprentice Records, Reports, and Examinations.**—The National Apprenticeship and Training Committee shall require the local employer to develop and keep such records as are necessary for the proper training of apprentices under these standards, as follows:

1. Use of application form for entrance into apprenticeship.
2. Provide tests or examinations as required for entrance—periodically for evaluation of progress and for completion.
3. Copy of registered apprenticeship agreement.
4. Periodic report forms.
5. Record of progress and attendance in related and technical instruction, and of selection standards and procedures.

13. **Selection Procedures.**—Local apprenticeship program sponsors shall develop appropriate apprentice selection standards, procedures

and rating systems consistent with requirements of title 29, CFR part 30, Nondiscrimination in Apprenticeship and Training.

14. **Accident Prevention.**—Apprentice dental technicians shall receive training and instruction in accident prevention and safe working habits both on the job and in related instruction, during their entire term of apprenticeship. Such instruction shall be coordinated with actual work performed on the job and tools and equipment used.

15. **Adjusting Differences.**—The employer and the apprentice shall have the right and privilege of appeal to the National Apprenticeship and Training Committee in the event of disputes or controversies arising over any provision of the local apprenticeship standards which cannot be satisfactorily settled locally between them. The national committee shall hear all parties and make such adjustments as it may consider necessary.

16. **Certificate of Completion of Apprenticeship.**—Apprentices who complete their apprenticeship and who have passed the required dental technician examination shall be awarded a certificate by the national committee, attesting to their satisfactory completion of training and recognition as qualified journeymen. Certificates of completion are also available from the registration agency upon request by the local program sponsor for apprentices completing apprenticeship under registered standards.

THE NATIONAL ASSOCIATION OF DENTAL LABORATORIES APPRENTICESHIP AND TRAINING POLICY

It is a basic policy of the members of the National Association of Dental Laboratories to provide for training and opportunity for growth for all employees of its members. This, in turn, promotes continuity and growth for all the members of the association. Such a policy is the best guarantee of the security and well-being of the Nation and of ever-increasing opportunities for the employees and owners of dental laboratories.

The fulfillment of this policy is a constant challenge in our rapidly changing technological, political and economic climate. It will require vigilance and frequent readjustment to meet the manpower needs of this highly technical industry.

The important objective is to meet the needs of the industry for skilled and competent journeymen. Actual laboratory experience and related instruction constitute the hard core of training conducive to career success in the dental laboratory industry.

Trends at the present time indicate that trained personnel can be prepared for skilled jobs more efficiently and economically, and with higher standards of achievement than was possible with traditional fixed-period training programs of the past.

It is recognized that the time necessary to acquire these basic fundamentals will vary with the ability and application of the individual, the area of specialization for which he or she is training, and the facilities available to each laboratory.

Because of the rapid and inevitable changes always taking place in dental laboratory techniques, the National Association of Dental Laboratories Apprenticeship and Training Committee will maintain a constant surveillance of apprentices, apprentice problems, and new requirements. It will develop new training criteria, guide lines, and measures of attainment in the apprenticeship and other training programs as new conditions dictate. In this fashion, the National Association of Dental Laboratories can more effectively foster and promote training of greater benefit tc the apprentices and the dental laboratories.

Part II

ADAPTING NATIONAL POLICY TO LOCAL USE—PROGRAM SUPERVISION

The National Association of Dental Laboratories will oversee this national policy and its use to obtain the maximum effectiveness of local apprenticeship programs and to insure the availability of competently trained personnel to meet the needs of its membership. The meaningful adaptation of the association's stated policy and the application of national standards to local operations will require active and continuing cooperation of the association and the individual member laboratories.

1. **National Apprenticeship and Training Committee.**—This committee will be an administrative body named by the National Association of Dental Laboratories and comprised of operators of dental laboratories and other experts in the field of dental laboratory technology. It will be directly responsible to the association for apprenticeship and training under the purview of this agreement. This committee shall make every effort to maintain the application of this national policy among the membership of the association. Any adjustment of these standards to the needs of the industry, the development of new training criteria, guide lines, curriculum, and the application of measures of attainment rests with this committee, subject to approval by the association.

A representative from the Bureau of Apprenticeship and Training, U.S. Department of Labor, and/or the State apprenticeship council, if one exists in the State, is available upon request to attend meetings as advisor and consultant on labor standards applicable to apprentices, on the development of administrative procedures for the conduct of

apprenticeship, and on any problems relating to apprentices and apprenticeship.

2. **Employers and Supervisors of Apprenticeship and Training.**—Responsibility for apprenticeship and training in the local laboratory usually falls upon the employer.[6]

It is recommended that the employer select a supervisor of apprenticeship and training to organize and administer the local apprenticeship program.

It shall be the duty of the employer through the supervisor to adopt local apprenticeship standards consistent with this national policy, and covering such items as:

(*a*) Method of selecting apprentices.
(*b*) Schedule of work experience on the job.
(*c*) Progressively increasing schedule of wages for the apprentice.
(*d*) Supplemental related instruction.
(*e*) Provision for reviewing or testing the apprentice's progress.
(*f*) Providing the apprentices with certificates of completion.

It shall be the responsibility of the local program sponsor to:

(*a*) Determine the need for apprentices.
(*b*) Approve apprenticeship selections.
(*c*) Assure that necessary on-the-job experience and related instruction are provided.
(*d*) Conduct periodic examination of apprentices.
(*e*) Notify the appropriate registration agency and the association of any cancellation or termination of apprenticeship agreements.
(*f*) Prepare and submit all necessary reports concerning its program to the local, State, or Federal agencies.
(*g*) Prepare and submit to the association's Washington, D.C., Office (1) an initial report outlining the local program, (2) periodic reports regarding apprenticeship activities, and (3) any amendments to approved local standards.
(*h*) Supervise the enforcement of the provisions of the local apprenticeship and training standards.

3. **Ratio of Apprentices.**—One apprentice dental technician may be employed in all shops where one dental technician is regularly employed full time (i.e, 40 hours per work week). Thereafter, one apprentice may be employed for each additional three or major fraction of dental technicians regularly employed.

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[6] Nothing herein supersedes existing agreements or practices between management and labor. Thus, the continued or future use of local joint apprenticeship committees, equally representative of management and labor, is recommended in the operation of local programs involvinng employers having a bargaining agreement with a union. In such cases, the local standards should conform as nearly as possible to this recommended national policy.

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4. **Filing With the Registration Agency.**—A copy of the local apprenticeship standards, and any amendments thereto, shall be filed with the registration agency.

5. **Consultants.**—Guidance in the successful operation of the apprenticeship program is always available from the association representative. Advice and assistance may also be sought from the Bureau of Apprenticeship and Training, U.S. Department of Labor, the State apprenticeship agencies, and/or State departments of education.

6. **Term of Apprenticeship.**—The term of apprenticeship for the apprentice dental technician shall be approximately 8,000 consecutive hours of on-the-job training, which shall include a minimum of 144 hours per year of related supplemental instruction. The term shall be subdivided into eight 6-month periods of 1,000 hours each.

The first 500 hours shall be considered a probationary or tryout period, during which time either party may cancel the apprenticeship agreement by notifying the other. The registration agency shall be advised of all such cancellations.

The apprentice dental technician will work with qualified dental technicians under the supervision of the laboratory manager and will receive work experience and training pertaining to the skills of dental technology. It will be his duty to familiarize himself generally in a manner that will lead to his advancement. As he becomes familiar with the subjects related to the operation of laboratory equipment and methods of fabrication, he will be expected to perform any duties considered to be those of an apprentice dental laboratory technician.

During the probationary period, the apprentice will have an opportunity to observe this work in its entirety enabling him to decide whether or not it will be to his liking, and whether or not he has the ability to absorb further training.

7. **Rates of Pay.**—Forty (40) hours week.

First 1,000 hours—50 percent of dental technician's rate.
Second 1,000 hours—55 percent of dental technician's rate.
Third 1,000 hours—60 percent of dental technician's rate.
Fourth 1,000 hours—65 percent of dental technician's rate.
Fifth 1,000 hours—70 percent of dental technician's rate.
Sixth 1,000 hours—75 percent of dental technician's rate.
Seventh 1,000 hours—80 percent of dental technician's rate.
Eighth 1,000 hours—90 percent of dental technician's rate.

Establishment of the dental technician's rate will be done by surveys of compensation in the geographic area where the employing dental laboratory is located.

8. **Supervision.**—General supervision of this national policy shall be the responsibility of the general office of the National Association of Dental Laboratories, Washington, D.C.

(a) Apprentices under local programs will be supervised and trained by qualified dental technicians.

9. **Modifications.**—The National Association of Dental Laboratories Apprenticeship and Training Committee reserves the right to make such changes in its apprenticeship and training policy as may in its judgment be necessary, subject to the approval of the national association.

DENTAL TECHNICIAN (DENTURE)

A. Basic Orientation---------- Approximately 3 mos. or 500 hrs.

1. Determining properties and usage of materials and equipment—Plaster, dental stones, impression materials, various types of waxes, plastics, investments, hand tools, dental lathes, dental engines and hand pieces, furnaces, casting machines, presses, flasks, and related equipment.

B. Plaster Work---------- Approximately 3 mos. or 500 hrs.

1. Inspecting impressions for bubbles, distortions, broken segments of plaster, tray impingements or any other deficiency.

2. Assembling broken impressions by luting together with sticky wax or pins.

3. Mixing dental stone to proper consistency and flowing into impression.

4. After proper setting of stone, removing model from impression and trimming any excess stone, using care to prevent encroaching on tooth or tissue areas.

5. Preparing luted models for articulation by positioning them on instruments and pouring plaster bases to secure positive look on lower segment of articulator. Repeating same procedure for upper model.

6. After required setting, removing wax bits from articulator and removing excess sticky wax by boiling in temperature controlled hot water tank for required period.

C. Checking Models and Setting Bite----------Approximately 3 mos. or 500 hrs.

1. Examining models with extreme care to assure that all critical areas are present and that model is ready for construction of restoration.

2. Checking for granular areas, drawn regions and other flaws which may indicate that the impression and consequent model may be inaccurate.

3. Trimming wax bit and positioning on model in an exacting manner to duplicate the natural arch relationship.

4. Luting models together with sticky wax to preserve and maintain the relationship.

D. Base Plates, Bite Rims and
Trays----------Approximately 3 mos. or 500 hrs.

1. Adapting shellac bases to models with exacting accuracy and smoothing borders for the precise fit to meet required standards.

2. Placing spacers for construction of tray and attaching tray handles to base.

3. Molding red wax into proper contour and positioning on base plate by using a Bunsen burner and spatula to effect adhesion of wax. Applying a covering sheet of soft yellow wax across the cutting surface area.

4. Adapting plastic base by using mixture of resin powder and liquid to form dough and manipulating this material to create impression tray.

E. Setting Up Teeth----------Approximately 6 mos. or 1,000 hrs.

1. Positioning of each individual tooth on model, taking into consideration esthetics, phonetics and function, using various types of articulators in accordance with the dentist's instructions.

2. Interpreting registered jaw relationships accomplished with intra-extra oral tracing devices.

3. Arranging teeth to harmonize with patient's sex, age, and personality by various grinding processes.

4. Positioning repelling magnets on full denture construction and metal formed teeth for strength and efficiency.

5. Positioning flat plane and various other types of posterior teeth for efficiency and function.

6. Outlining peripheral borders on partial and full denture to avoid muscle attachments and over and under extensions of finished denture base.

7. Checking and milling in processed dentures and adjusting any discrepancies caused by processing errors.

F. Waxing---------- Approximately 6 mos. or 1,000 hrs.

1. Flowing of wax to conform to outline of finished restoration by using heated spatula and wax.

2. Carving facial areas anatomically to simulate natural appearances and to provide lip support in accordance with dentist's instructions.

3. Carving wax to reproduce the borders established by the outlined model.

G. Investing, Boiling Out and
Packing ---------- Approximately 6 mos. or 1,000 hrs.

1. Mixing stone and flowing mixture into flask which contains waxed up case.

2. Partially filling flask with stone and allowing for hardening.

3. Placing separating film over exposed wax and teeth.

4. Mixing stone and flowing into upper portion of flask which is allowed to set and harden.

5. Opening flask and boiling away all wax to create void to be filled with plastic dough.

6. Heat treating open flask to prepare hardened stone for reception of plastic dough without moisture contamination.

7. Spatulating plastic powder resin liquid into a dough state and inserting plastic into flask.

8. Closing flask under high pressure to form dough and to remove excess resin.

9. Utilizing spring clamps to maintain exacting flask closure.

10. Curing plastic by immersing in temperature controlled tanks for required period of time.

H. Deflasking, Finishing, Polishing, and High Shining------- Approximately 12 mos. or 2,000 hrs.

1. Cutting away hardened stone from processes restoration by using air powered hammer, laboratory knives, hand mallet, saws, and deflasking clamps.

2. Shell blasting restoration to remove debris and stone which is strongly imbedded in and around denture teeth.

3. Trimming plastic with motor powered lathe to remove excess material and to make restoration conform to outline required in finished product.

4. Chiseling away excess plastic around teeth to create a sharp line of demarkation between plastic and artificial teeth.

5. Polishing completed denture by using a pumice compound to smooth roughness created by finishing operation.

6. High shining denture by using dental lathe buff wheels impregnated with various shining compounds to achieve desired sheen and luster.

7. Inspecting restoration to determine if dentist's prescription has been accurately followed.

I. Repairing Existing Dentures-- Approximately 6 mos. or 1,000 hrs.

1. Grinding in replacement teeth.

2. Assembling broken restorations and fusing together with hot water pressure cooker technique to prevent porosity.

3. Bending and adapting wrought gold and steel wires to replace broken components.

4. Spot welding leaders and rest supports.

Total Months and Hours------- Approximately 48 mos. or 8,000 hrs.

DENTAL TECHNICIAN (CASTING)

A. Basic Orientation---------- Approximately 3 mos. or 500 hrs.

1. Determining properties and usage of materials and equipment—Plaster, dental stones, impression materials, various types of waxes,

plastics, investments, hand tools, dental lathes, dental engines and hand pieces, furnaces, casting machines, presses, flasks, and related equipment.

B. Plaster Work---------- Approximately 3 mos. or 500 hrs.

1. Inspecting impressions for bubbles, distortions, broken segments of plaster, tray impingements, or any other deficiency.

2. Assembling broken impressions by luting together with sticky wax or pins.

3. Mixing dental stone to proper consistency and flowing into impression.

4. After proper setting of stone, removing model from impression and trimming any excess stone, using care to prevent encroaching on tooth or tissue areas.

5. Preparing luted models for articulation by positioning them on instruments and pouring plaster bases to secure positive lock on lower segment of articulator. Repeating same procedure for upper model.

6. After required setting, removing wax bite from articulator and removing excess sticky wax by boiling in temperature controlled hot water tank for required period.

C. Checking Models and Setting Bite---------- Approximately 3 mos. or 500 hrs.

1. Examining models with extreme care to assure that all critical areas are present and that model is ready for construction of restoration.

2. Checking for granular areas, drawn regions and other flaws which may indicate that the impression and consequent model may be inaccurate.

3. Trimming wax bite and positioning on model in an exacting manner to duplicate the natural arch relationship.

4. Luting models together with sticky wax to preserve and maintain the relationship.

D. Surveying, Outlining and Waxing---------- Approximately 15 mos. or 2,500 hrs.

1. Mounting of model on an adjustable surveying table where instrument is used to aid in determining areas which will provide retaining points for restoration.

2. Using surveyor and micro analyzer to accurately mark the high points of each tooth to be utilized for holding the cast restoration in position while in the mouth.

3. Outlining stone models, taking into consideration factors that will affect the ultimate success of restoration such as: number and location of missing teeth in the arch, shape and contour of remaining natural teeth, using tissue formations or other indication from model which will guide the ultimate design of restoration.

4. Copying the outline from master cast to a special refractory model.

5. Applying both free hand waxing and preformed plastic patterns to conform to penciled outline on the refractory model, exercising great care to make sure the outline is faithfully reproduced.

6. Forming a sprue and attaching to wax out to prepare for investment.

E. Investing, Burning out, casting and Removing Casting From Investment---------- Approximately 3 mos. or 500 hrs.

1. Painting a light film of special high heat investment over a wax up, exercising great care to avoid having a frail pattern.

2. Imbedding the wax up and refractory model in a special high heat type of investment where it is allowed to harden after being thoroughly vibrated.

3. Placing the invested casting ring into a special high heat furnace where all wax and residue are melted and the investment throughly heat soaked in an electronically controlled temperature to prevent undue expansion or contraction of the investment.

4. Removing the burned out ring from furnace and placing in casting machine where either gold or stainless steel is melted in a crucible with proper torch and flame tip, using combinations of gas, air, oxygen, and acetylene as required by the type of metal used.

5. Casting molten metal in a centrifuge.

6. Using saw blades, air hammer, and mallet to break away the investment material in order to recover the completed casting.

DENTAL TECHNICIAN (CERAMICS)

A. Basic Orientation---------- Approximately 3 mos. or 500 hrs.

1. Determining properties and usage of materials and equipment—Plaster, dental stones, impression materials, various types of waxes, plastics, investments, hand tools, dental lathes, dental engines and hand pieces, furnaces, casting machines, presses, flasks, and related equipment.

B. Preparing Dies (Copper Band Technique)----------Approximately 3 mos. or 500 hrs.

1. Cleaning of excess flashing of compound from copper band impressions and carefully examining tube impression.

2. Banding the tube impression with gummed sealing tape to form cylinder which receives amalgam alloy.

3. Mixing of alloy and mercury to proper consistency for insertion into wrapped band.

4. Packing of alloy into tube impression under pressure to assure a dense hard workable die after setting.

5. Removing the banded wrapper and tube from die by slightly heating compound and removing without rotation.

6. Trimming of margin with extreme care and tapering die tail with a seating notch.

C. Securing Removable Die Model
(Copper Band Technique)----Approximately 3 mos. or 500 hrs.

1. Placing die in the assembled plaster impression after impression has been coated with separating medium.

2. Immobilizing die tail and carefully pouring artificial stone (plaster like material) into impression where it is allowed to harden for required period.

3. Removing model from impression material and easing the die from model giving technician a reproduction of the appropriate area of patient's mouth on a model which enables him to remove specific teeth in question to facilitate build up procedure.

D. Securing Removable Die Model
(Rubber or Silicone Base Material Technique)----------Approximately 3 mos. or 500 hrs.

1. Cutting metal matrix bands and fitting metal inserts into impression where removable dies are to be formed.

2. Positioning and sealing bands into position with use of wax, spatula, and Bunsen burner.

3. Mixing die stone with water to proper consistency and inserting the mixture with spatula in a careful manner so that it will flow into area banded and not escape outside band.

4. Placing dowel pins in stone just prior to setting of stone mixture.

5. Placing light film of lubricating medium over tails and stone material to effect an easy separation.

6. Banding entire impression with sheet wax to make form which will receive the flow of model stone mixture.

7. Spatulating stone mixture and pouring into the form.

8. Separating model by removing wax form and impression from solid stone cast.

9. Removing dies and trimming following same basic procedure previously listed for trimming dies.

E. Platinum Matrix Forming---- Approximately 3 mos. or 500 hrs.

1. Removing die and neatly forming a platinum foil matrix burnished over the die with an apron extending beyond the margin using special folds to insure a neat and smooth shell.

2. Removing matrix with extreme caution and reinserting to facilitate an easy path for removal when needed.

F. Finishing Operation------- Approximately 15 mos. or 2,500 hrs.

1. Removing the sprue with a high speed out off disc.

2. Deplating of metal with special electrically charged solution.

3. Finishing of casting, using high speed power driven grinder and various abrasive instruments.

4. Rubber wheeling surfaces with various rubber points, wheels and cones to smooth areas previously polished.

5. Polishing and high shining with power driven lathe, using various compounds such as rouge, pumice, tin oxide, etc.

6. Fitting and inspecting of completed casting to conform to specified standards.

G. Setting Teeth---------- Approximately 6 mos. or 1,000 hrs.

1. Selecting appropriate tube teeth and facings from stock in accordance with the dentist's request for color and size.

2. Grinding and setting in the necessary teeth, using abrasive stones and instruments powered by electric dental lathe, taking into consideration various anatomical factors.

Total Months or Hours-------- Approximately 48 mos. or 8,000 hrs.

F. Baking of Porcelain-------- Approximately 15 mos. or 2,500 hrs.

1. Opaquing the platinum matrix with an inital bake to mask out silver color of matrix to secure a good base for future coloration.

2. Firing of opaquing in a high heat electronically temperature controlled porcelain furnace for required time to fuse a base for additional layers of porcelain to follow.

3. Mixing and blending porcelain powders with distilled water and applying with brush and spatula technique on the fused opaque base in tooth shape.

4. Reinserting in furnace at required temperature while vacuum pump is activated to create fusion of porcelain in a 27-inch vacuum assuring density and strength.

5. Removing porcelain buildup and after cooling to room temperature, grinding the hardened porcelain to simulate tooth forms.

6. Mixing and blending of translucent powders for cutting edges of teeth and applying with spatula and brush, covering the bottom portion and reinserting in furnace for additional vacuum firing to simulate clearness present in natural teeth.

7. Removing restoration from furnace and after cooling period, grinding in for exact contact with adjacent teeth, proper facial alinement, and proper tooth length.

8. Applying glaze and final firing in furnace.

9. Removing of foil after cooling with tweezers and sharp pointed instruments leaving porcelain intact.

10. Removing all flashing and checking to assure proper fit, alinement, and color match in accordance with dentist's instructions or dentist's sample color.

G. Porcelain and Platinum
Restoration---------- Approximately 18 mos. or 3,000 hrs.

1. Waxing frame work, utilizing coping or full cast procedures as specified by dentist.
2. Investing in special extremely high heat investment material.
3. After setting, burning out wax residue in a high heat furnace.
4. Casting platinum alloy, utilizing oxygen and acetylene torch for melting prior to casting.
5. Finishing the alloy to proper outline and shape.
6. Treating and cleansing of metals with acids to prepare surface for baking of porcelain.
7. Investing and soldering or joining multiple units when indicated.
8. Opaquing platinum metal by baking a masking type porcelain.
9. Building up subsequent bakes of vacuum fired porcelain and grinding to proper shape as required.
10. Glazing and final inspection to assure proper fit, accurate color, and contour.

Total months or hours----------Approximately 48 mos. or 8,000 hrs.

DENTAL TECHNICIAN (CROWN AND BRIDGE)

A. Basic Orientation---------- Approximately 3 mos. or 500 hrs.

1. Determining properties and usage of materials and equipment—Plaster, dental stones, impression materials, various types of waxes, plastics, investments, hand tools, dental lathes, dental engines and hand pieces, furnaces, casting machines, presses, flasks, and related equipment.

B. Making Electroformed Dies and
Preparing Models---------- Approximately 3 mos. or 500 hrs.

1. Cleaning excess wax and debris from cathode.
2. Cleaning excess compound from outer surface of copper band to assure good electrical contact.
3. Immobilizing copper band with wax to cathode, using caution to preserve the metallic contact between band and cathode.
4. Wrapping strip of wax around copper band to protect surface of band from being electroplated.
5. Sealing the wax to bottom of band to prevent electroforming of band.
6. Covering impression with a special solution to improve electroforming action.
7. Identifying and placing prepared copper band in copper plating tanks and setting necessary amperage gages for proper flow of electrical current.
8. Inspecting each band for adequacy of plating prior to removing from tank.

C. Low Fusing Base Metal Dies-- Approximately 3 mos. or 500 hrs.

1. Bending copper band with gum paper to form hollow cylinder into which low fusing base metal is poured.

2. Removing band from die after metal is hardened producing a positive accurate copy of the prepared tooth in the patient's mouth.

3. Trimming margins with extreme care to define the prepared area of the tooth to accurately reproduce the condition in the mouth on a working diet.

4. Preparing a taper on tail or extension of die so that removal can be effected when subsequent model is poured.

5. Cutting a seating notch in die tail.

D. Securing Removable Die Model
(Copper Band Technique)----- Approximately 3 mos. or 500 hrs.

1. Placing die in the assembled plaster impression after impression has been coated with separating medium.

2. Immobilizing die tail and carefully pouring artificial stone (plaster like material) into impression where it is allowed to harden for required period.

3. Removing model from impression material and easing the die from model giving technician a reproduction of the appropriate area of patient's mouth on a model which enables him to remove specific tooth in question to facilitate the waxing operation.

E. Securing Removable Die Model
(Rubber or Silicone Base Material Technique)---------- Approximately 3 mos. or 500 hrs.

1. Cutting metal matrix bands and fitting metal inserts into impression where removable dies are to be formed.

2. Positioning and sealing bands into position with use of wax, spatula and Bunsen burner.

3. Mixing die stone with water to proper consistency and inserting the mixture with spatula in a careful manner so that it will flow into area banded and not escape outside band.

4. Placing dowel pins in stone just prior to setting of stone mixture.

5. Placing light film of lubricating medium over tails and stone material to effect an easy separation.

6. Banding entire impression with sheet wax to make form which will receive the flow of model stone mixture.

7. Spatulating stone mixture and pouring into the form.

8. Separating model by removing wax form and impression from solid stone cast.

9. Removing dies and trimming following same basic procedure previously listed for trimming dies.

F. Articulating the Models_____ Approximately 3 mos. or 500 hrs.

1. Trimming wax bite and positioning the opposing model and luting into correct relationship.

2. Placing unit on an articulator where plaster is poured and allowed to harden.

3. Melting luted wax and removing bite prior to checking articulation for accuracy.

G. Waxing and Casting_____ Approximately 12 mos. or 2,000 hrs.

1. Lubricating die and carving a fitted wax pattern in accordance with the dentist's instructions for the following: inlay, onlay, pinlay, three quarter crown, full crown, veneer crown or pontics, etc. (hand carving).

2. Making wax sprue which is the channel through which molten golds flows to make the restoration.

3. Mounting the wax pattern with attached sprue to a sprue former and encasing in a metal casting ring.

4. Painting wax pattern with debubblizing solution and pouring investment material to completely encase pattern.

5. Allowing for proper setting of investment and placing invested ring in furnace where all the wax is melted, leaving an internal void of the wax pattern inside the investment (industrially known as lost wax process of casting).

6. Removing material from oven and placing in casting machine or centrifuge where gold is melted and the casting is made through use of heavy spring power, utilizing electronic controls to assure correct gold melting point for proper flow and to prevent oxidation and pitting of gold.

7. Removing the raw gold casting from investment and treating gold with acids for proper cleansing of surfaces.

H. Assembling and Soldering___ Approximately 6 mos. or 1,000 hrs.

1. Placing multiple units in alinement and luting them together with sticky wax to prevent movement.

2. Making a mixture of investment material and pouring model, being careful to preserve original relationship of components.

3. Melting away sticky wax in boiling water and heating invested model with gold components over gas burner.

4. Adjusting soldering tip to secure necessary flame for particular type of gold on specific restoration.

5. Using flux along with proper solder and gently rolling the solder into required area, using correct amount of heat to eliminate oxidation and porosity.

I. Processing Tooth Colored
Resins_____ Approximately 6 mos. or 1,000 hrs.

1. Forming white wax to simulate natural teeth and placing in the front of the various gold veneer units with spatula and fine pointed carving instruments.

2. Imbedding the white wax veneer goldwork in plaster which is allowed to set for required period inside a sectional metal flask.

3. Opening flask after hardening and boiling away all wax in clear hot water, leaving gold frame imbedded in plaster and creating a void area formerly occupied by wax and resulting in a die and counter die.

4. Opaquing the gold exposed framework with plastic resin to mask out any influence the gold color will have on the shade requested by dentist, thereby neutralizing any gold shadow effect.

5. Mixing plastic powder with a resin liquid in exacting proportions to create colors which will copy or reproduce the exact color shade submitted by dentist.

6. Mixing dough to proper consistency and placing mixture into flask on the surface of opaqued area.

7. Forming the teeth by closing flask under pressure so that the plastic fills the void created by the area in which the wax has boiled away.

8. Closing flask under pressure to form and shape plastic and removing excess material.

9. Reopening flask, using a Bard Parker knife to slice away plastic dough at the cutting edges of the teeth.

10. Mixing clear plastic which simulates the translucency of natural teeth and placing this in the area which has been sliced away.

11. Reclosing flask under pressure to provide a homogenous union of the clear and colored materials.

12. Placing flask in spring closing device and immersing in boiling water or vacuum atmosphere oven for curing and hardening resin.

13. Reopening flask and removing bridge frame encased plaster by cutting with a saw bladed instrument or clipping with special deflasking pliers.

14. Grinding and polishing the cured plastic fronts to remove any excess flashing and to refine the shaping or carving lost in the curing process.

J. Finishing and Polishing of Goldwork---------- Approximately 6 mos. or 1,000 hrs.

1. Finishing of gold crown and bridgework, cutting sprue from the casting with hand piece mounted disc, shaping gold with motor powered discs, burrs, and other instruments to an anatomical form simulating natural dentition and smoothing all rough surfaces resulting from finishing operation with motor powered rubber wheels, points and fine sanding discs.

2. Finishing, polishing, and high shining with various pumices, rouges and other shining agents on electric powered dental polishing engine.

3. Final inspection of restoration, checking for marginal fit, properly formed solder connections, accuracy of color matching, proper polishing, and porosity.

Total Months or Hours_____ Approximately 48 mos. or 8,000 hrs.

Approved and adopted by the National Association of Dental Laboratories in sessions at Denver, Colorado, the 25th day of June, 1964.

John Fruska C.D.T.
Vice-President

Paul Edson Love
Executive Secretary

Registered as incorporating the basic standards of the Bureau of Apprenticeship and Training this 28th day of January 1965.

Hugh C. Murphy
Administrator
Bureau of Apprenticeship and Training

Certificates of Completion of Apprenticeship, awarded apprentices when they have completed their training, are issued by the State apprenticeship agency or the Bureau of Apprenticeship and Training in States in which no such agency is established.

APPRENTICESHIP AGREEMENT

Between Apprentice and Employer

(Front View)

The employer and apprentice whose signatures appear below agree to these terms of apprenticeship:

The employer agrees to employ and train the apprentice in accordance with the terms and conditions of the ..... (Name of Apprenticeship Standards), which are made a part of this agreement; or, in accordance with the terms and conditions stated on the reverse side of this agreement.

The apprentice agrees to apply himself diligently and faithfully to learning the trade in accordance with this agreement.

Trade ..... Term of apprenticeship ..... (Hours or Years)

Credit for previous experience ..... Term remaining .....

Date the apprenticeship begins .....

This agreement may be terminated by either party notifying the other or in accordance with the named apprenticeship standards.

..... (Signature of Apprentice)	..... (Name of Employer—Company)
..... (Address)	..... (Address)
..... (Apprentice's Birth Date)	..... (Signature of Authorized Official)

Approved by ....., Joint Apprenticeship Committee.

Date ..... by ..... (Signature of Chairman or Secretary)

Registered by ..... (Name of Registration Agency)

Date ..... by ..... (Signature of Authorized Official)

Where a State requires the use of its own agreement form, such form may be obtained from the staff of the State apprenticeship agency or of the Bureau of Apprenticeship and Training.

TERMS AND CONDITIONS

(Back View)

1. Term of apprenticeship and period of probation:
   (*a*) Total term: ..... calendar years, or ..... hours
   (*b*) Probationary period: ..... months, or ..... hours

2. Schedule of work processes in which the apprentice is to receive adequately supervised instruction and experience, of which a record will be kept and periodically evaluated:
   (*a*) List here: Major divisions of the trade and work tasks required under each:
   (*b*) List here: Approximate time, in hours, months, or percent of apprenticeship:

3. Wage rate to be paid the apprentice each period of apprenticeship: (Period may be expressed in hours, months, or years; rate may be expressed in money or percent of journeyman's wage)

Periods:	Rates:	Periods:	Rates:	Periods:	Rates:
1st.....	.....	5th.....	.....	9th.....	.....
2d.....	.....	6th.....	.....	10th.....	.....
3d.....	.....	7th.....	.....	11th.....	.....
4th.....	.....	8th.....	.....	12th.....	.....

Journeyman's rate as of..... is ..... {per hour / per week

4. Number of hours per week or per day to be worked by the apprentice:
   (*a*) Hours per week..... (*b*) Hours per day.....

5. Number of hours of related instruction:
   (144 hours per year—4 hours per week during regular school year, is normally considered necessary. Where classes are not available through the local school, other organized trade, industrial, or correspondence course of equivalent value may be subscituted)
   (*a*) ..... week ..... year (*b*) School or course.....
   (*c*) Apprentice ☐ will ☐ will not be compensated for hours spent in related instruction after regular working hours.

6. Other provisions:
   (*a*) There is reasonable certainty that the job for which the apprentice is being trained will be available to him upon completion of his apprenticeship.
   (*b*) Upon request by the Joint Apprenticeship Committee or employer, a Certificate of Completion will be granted the apprentice by the Registration Agency upon satisfactory completion of the apprenticeship, in accordance with standards covered herein.

APPRENTICESHIP AGREEMENT

Between Apprentice and Joint Apprenticeship Committee

(Front View)

THIS AGREEMENT, entered into this ..... day of ..... 196.. between the parties to .....
(Name of local apprenticeship standards)

represented by the Joint Apprenticeship Committee, hereinafter referred to as the COMMITTEE, and ....., born .....
(Name of apprentice) (Month)

....., hereinafter referred to as the APPRENTICE, and (if a minor)
(Day) (Year)

....., hereinafter referred to as his GUARDIAN.
(Name of parent or guardian)

WITNESSETH THAT:

The Committee agrees to be responsible for the placement and training of said apprentice in the trade of ..... as work is available, and in consideration said apprentice agrees diligently and faithfully to perform the work incidental to the said trade during the period of apprenticeship, in accordance with the regulations of the Committee. The Apprenticeship Standards referred to herein are hereby incorporated in and made a part of this agreement.

Credit for previous experience at trade if any ..... {Hours. / Years. Apprenticeship remaining ..... {Hours. / Years.
Other conditions .....

In witness whereof the parties hereunto set their hands and seals:

..... [SEAL]
(Apprentice)

..... [SEAL]
(Representative of Joint Apprenticeship Committee)

.....
(Address)

.....
(Title)

..... [SEAL]
(Parent or guardian)

..... [SEAL]
(Representative of Joint Apprenticeship Committee)

.....
(Title)

Registered by the .....
(Name of registration agency)

By ..... Title ..... Date....., 196..

Available through Bureau of Apprenticeship and Training, U.S. Department of Labor, Washington, D.C.

Where a State requires the use of its own agreement form, such form may be obtained from the staff of the State apprenticeship agency or of the Bureau of Apprenticeship and Training.

APPRENTICESHIP AGREEMENT

Between Apprentice and Joint Apprenticeship Committee

(Back View)

The undersigned agrees to provide employment and training in accordance with standards named herein.

. . . . . .

(Employer)

. . . . . .

(Address)

. . . . . .

(Employer)

. . . . . .

(Address)

. . . . . .

(Employer)

. . . . . .

(Address)

. . . . . .

(Employer)

. . . . . .

(Address)

REGIONAL OFFICES

BUREAU OF APPRENTICESHIP AND TRAINING

REGION I

(Maine, N.H., Vt., Mass., R.I., Conn.)
John F. Kennedy Federal Bldg.,
Government Center,
Boston, Mass. 02203

REGION II

(N.Y., N.J., Puerto Rico, Virgin Islands)
Room 906, 341 Ninth Ave.,
New York, N.Y. 10001

REGION III

(Pa., Del., Va., Md., W. Va., N.C.)
Room 321,
Professional Arts Bldg.,
Chambersburg, Pa. 17201

REGION IV

(S.C., Tenn., Ga., Miss., Fla., Ala.)
Room 525, 1371 Peachtree Bldg.,
17th and Peachtree St. NE.,
Atlanta, Ga. 30309

REGION V

(Ohio, Mich., Ky.)
Room 948, Engineers' Bldg.,
1365 Ontario St.,
Cleveland, Ohio 44114

REGION VI

(Ill., Ind., Minn., Wis.)
Room 858,
219 So. Dearborn St.,
Chicago, Ill. 60604

REGION VII

(N. Dak., S. Dak., Iowa, Kans., Mo., Nebr.)
Room 2811, Federal Office Bldg.,
911 Walnut St.,
Kansas City, Mo. 64106

REGION VIII

(La., Tex., N. Mex., Okla., Ark.)
Room 312, 411 N. Akard St.,
Dallas, Tex. 75201

REGION IX

(Utah, Wyo., Colo., Mont.)
Room 832, Equitable Bldg.,
730 17th St.,
Denver, Colo. 80202

REGION X

(Ariz., Nev., Hawaii, Calif.)
Room 10451, 450 Golden Gate Ave.,
P.O. Box 36017,
San Francisco, Calif. 94102

REGION XI

(Alaska, Idaho, Wash., Oreg.)
Room 1809, Smith Tower,
506 Second Ave.,
Seattle, Wash., 98104

STATE APPRENTICESHIP AGENCIES

(Including the District of Columbia, Puerto Rico and the Virgin Islands)

Arizona Apprenticeship Council,
1623–B West Adams,
Phoenix, Ariz. 85007

Division of Apprenticeship Standards,
Department of Industrial Relations,
San Francisco, Calif. 94102

Colorado Apprenticeship Council,
% Industrial Commission,
Denver, Colo. 80203

Apprentice Training Division,
Labor Department,
Wethersfield, Conn. 06109

Delaware State Apprenticeship and Training Council,
Department of Labor and Industry,
Wilmington, Del. 19801

District of Columbia Apprenticeship Council,
1145 19th St. NW.,
Washington, D.C. 20036

Department of Apprenticeship,
Florida Industrial Commission,
Tallahassee, Fla. 32304

Apprenticeship Division,
Department of Labor and Industrial Relations,
Honolulu, Hawaii 96813

Kansas Apprenticeship Council,
Department of Labor,
Topeka, Kans. 66603*

Kentucky State Apprenticeship Council,
Department of Labor,
Frankfort, Ky. 40601

Division of Apprenticeship,
Department of Labor,
Baton Rouge, La. 70804

Maine Apprenticeship Council,
Department of Labor and Industry,
State Office Bldg.,
Augusta, Maine 04330

Maryland Apprenticeship and Training Council,
Department of Labor and Industry,
Baltimore, Md. 21201

Division of Apprentice Training,
Department of Labor and Industries,
Boston, Mass. 02202

Division of Voluntary Apprenticeship,
Department of Labor and Industry,
St. Paul, Minn. 55101

Montana Apprenticeship Council,
Department of Labor and Industry,
Helena, Mont. 59601

Nevada Apprenticeship Council,
Department of Labor,
Carson City, Nev. 89701

New Hampshire Apprenticeship Council,
Department of Labor,
Concord, N.H. 03301

New Mexico Apprenticeship Council,
Labor and Industrial Commission,
Albuquerque, N. Mex. 87101

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*All agencies, with the exception of Kansas and Rhode Island, operate under apprenticeship and/or training laws enacted by the legislature. Agencies in Kansas and Rhode Island function under executive order of the Governor.

Bureau of Apprentice Training,
Department of Labor,
Albany, N.Y. 12226

Division of Apprenticeship Training,
Department of Labor,
Raleigh, N.C. 27602

Ohio State Apprenticeship Council,
Department of Industrial Relations,
Columbus, Ohio 43215

Oregon Apprenticeship Council,
Bureau of Labor,
Portland, Oreg. 97201

Pennsylvania Apprenticeship and Training Council,
Department of Labor and Industry,
Harrisburg, Pa. 17120

Apprenticeship Division,
Department of Labor,
San Juan, P.R. 00908

Rhode Island Apprenticeship Council,
Department of Labor,
Providence, R.I. 02903*

Utah Apprenticeship Council,
Industrial Commission,
Salt Lake City, Utah 84111

Vermont Apprenticeship Council,
Department of Industrial Relations,
Montpelier, Vt. 05601

Division of Apprentice Training,
Department of Labor and Industry,
Richmond, Va. 23214

Washington Apprenticeship Council,
Department of Labor and Industries,
Olympia, Wash. 98501

Apprenticeship Division,
Wisconsin Industrial Commission,
Madison, Wis. 53203

Virgin Islands Apprenticeship Council,
Department of Agriculture and Labor,
Christiansted, St. Croix, V.I. 00820

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